

Notice of Allowability	Application No.	Applicant(s)	
	10/791,431	HSIAO ET AL.	
	Examiner	Art Unit	
	Matthew G. Kayrish	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/1/2004.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>3/1/2006</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Allowable Subject Matter

1. The following is an examiner's statement of reasons for allowance:
2. Claim 1 recites:

A method for magnetically recording information in a magnetic recording medium that includes a magnetic recording layer:

The vertical component extending from the write head to a magnetically soft underlayer disposed under the magnetic recording layer; and

Writing a longitudinal orientation in the magnetic domain in the magnetic recording layer by generating a horizontal component of magnetic flux in the magnetic recording layer using the write head.

Claim 5 recites:

Guiding the magnetic flux through the magnetic recording layer at an angle having a vertical component and a horizontal component with the vertical component being smaller than the horizontal component, the vertical component lowering a dynamic coercivity of a selected region of the magnetic recording layer and the horizontal component writing a longitudinal orientation in the selected region.

Claim 9 recites:

A magnetically soft underlayer and wherein a thickness of the magnetically soft underlayer and a thickness of the non-magnetic spacer layer are designed to guide

Art Unit: 2653

magnetic flux from the longitudinal write head through the magnetic recording layer at an angle having a vertical component and a horizontal component with the horizontal component being larger than the vertical component.

Claim 14 recites:

A magnetic thin film magnetic recording medium on the disk including a magnetic recording layer for longitudinal recording with an easy axis of magnetization in the plane of the layer, a non-magnetic spacer layer, a magnetically soft underlayer and wherein a thickness of the magnetically soft underlayer and a thickness of the non-magnetic spacer layer are designed to guide magnetic flux from the longitudinal write head through the magnetic recording layer at an angle having a vertical component and a horizontal component with the horizontal component being larger than the vertical component.

3. The closest references (US Patents 5750270 and 6320725) disclose a method of writing perpendicularly to magnetic media using longitudinal means, by lowering the coercivity of the magnetic media using the magnetic head. The present invention discloses a method of writing longitudinally to a disc with magnetic soft underlayer designed to guide the magnetic flux through the media.
4. Claims 1, 5, 9 and 14 are not anticipated by, nor made obvious, over the prior art of record.
5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

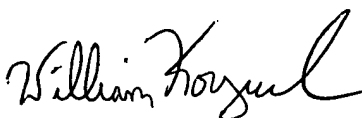
Art Unit: 2653

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Kayrish whose telephone number is 571-272-4220. The examiner can normally be reached on 8am - 5pm M-F.
7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Kayrish

3/9/2006

MK


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600